Some Suggestions for UST TGM Updates/Revisions
(Collected during 2004 to mid-2005)

Section 2: Reporting, Recordkeeping and Permitting Requirements

- Need to further clarify release reporting requirements, even for a *de minimis* amount, for sites where a "no further action" letter has been issued.

- Need to clarify permit requirements for transporting petroleum-contaminated soil.

Section 5: Release Response

- Whenever a natural attenuation remediation option is proposed for groundwater, guidance should specify tests for electron acceptors (e.g. DO, nitrate and sulfate) and the primary products of biodegradation (such as carbon dioxide, methane, ferrous iron, and manganese) to document the likelihood of success.

- At least two soil samples should be collected and analyzed for a soil boring that is deeper than five feet. One sample should be collected at the capillary zone, and one should be collected at the depth where the PID (field screening) reading is the highest.

- The number of confirmation samples for the bottom and sidewalls of an excavated UST pit should be increased, depending on the size of the excavation.

- Low flow pump technology should be used for purging groundwater wells and to collect groundwater samples for analyses.

- Guidance should provide a SOP for soil sample collection using air rotary coring.

- The May 2005 Environmental Action Levels (EAL) document needs to be referenced in the TGM rather than the RBCA document currently described.

- Need to clarify whether the Tier 2 calculation option in the March 2000 TGM will still be allowed in conjunction with the May 2005 Environmental Action Levels.

- Guidance needs to specify the waiting period for sampling after a groundwater well has been installed.

- Guidance should specify continuous soil boring cores to profile the geologic characteristics of sites, rather than just every 5 feet. Continuous cores may detect soil/gravel layers thinner than 5 feet that act as preferential pathways for contaminants.

- Guidance needs to be updated on protocols for the use of direct push technology for soil and groundwater monitoring.

- Guidance should specify the use of "loose ice" rather then "blue ice" for rapid sample cooling, especially when VOC samples are collected.

Section 7: Sampling and Analysis

- Need to update protocols for head-space screening of soil samples in the field. Also need a SOP for PID measurement of soil, as several different techniques are currently used.

- Guidance should limit the use of data or require additional sampling when lab results come back with more than 5% of the values with "J" flags.

- The maximum dilution for samples tested in the lab should be less than 50. If a sample needs to be diluted more than 50 times for analysis, the lab should recalibrate instruments to allow for analysis at higher concentrations, or use alternate analysis methods calibrated in the higher concentration ranges.

- Guidance should clearly specify that all tables reporting contaminant concentrations should report "non-detects" as less than the lab method reporting limits (e.g. <0.005 mg/kg), rather than simply "ND"

- The guidance should address the length of groundwater well screens in situations where the groundwater occurs at less than 5 ft. below ground surface.

- Need to clarify guidance on use of TPH levels as a screening tool for other constituents (e.g. BTEX). If the detection limit for TPH is not real low, or even if TPH is not detected at a low level, there is still the possibility that BTEX constituents could be present above action limits (especially benzene).

- Guidance needs to be updated regarding screen intervals appropriate for groundwater monitoring wells - to cover the variety of groundwater conditions and variables that occur in Hawaii.

- The guidance needs to specify proper procedures for groundwater monitoring well closure. The current guidance defers to guidelines followed by the Water Resources Board, but they do not handle environmental monitoring wells, and guidance for closure of large water wells is not appropriate for small groundwater monitoring wells being used for contaminant investigations.

- The guidance needs to specify better documentation for Data Quality Objectives for sampling plans, and provide or reference good examples that could be followed.

- The protocols for sampling VOCs in soil need to be updated.

- The guidance needs to clarify that all soil sample analytical results need to be reported on a dry weight basis.

- Need to reference the Nov. 1993 EPA laboratory sub-sampling guidance for soil samples, and recommend laboratories follow these guidelines or equivalent.